Appl. No. : **09/137,198**
Filed : **August 20, 1998**

REMARKS

Claims 1-19 are pending in the application and are presented for further examination and reconsideration in view of the following remarks.

Rejections under § 103

In the Office Action, Claims 1-12 and 14-19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Sumner (U.S. Patent No. 5,805,634) in view of Beard (U.S. Patent No. 6,434,187). Claim 13 was rejected under § 103 further in view of Griffis (U.S. Patent No. 4,470,070). Applicant respectfully traverses these grounds of rejection. Applicant reserves the right to challenge whether Beard is available as prior art against this application.

The Office Action characterizes Sumner as disclosing every element of independent Claim 1 except that it fails to teach having an FHSS data rate being faster than a DSSS data rate. However, that is not the case.

For example, Sumner does not teach the claimed mode selection circuit. The Office Action points to element 126 in Figure 2 of Sumner as meeting the mode selection circuit element of Claim 1. The mode selection circuit element of Claim 1 is claimed as being "coupled to said [1] direct sequence spread spectrum transmission portion and to said [2] frequency hopping spread spectrum transmission portion to selectively activate said direct sequence spread spectrum portion . . ." Element 126 of Sumner is coupled to the [2] power adjusters 124. It is not coupled to the [1] encoder 102 which produces a direct sequence spread spectrum signal at an output 130. Sumner, col. 4, lines 46-51.

In addition, the power hopping sequence generator 126 of Sumner in no way appears to be able to "selectively activate said direct sequence spread spectrum portion." In fact, it appears that the encoder 102 of Sumner is always active. Of course, that makes sense because Figure 2 of Sumner is a block diagram of a transmitter which transmits a Power Hopped Direct Sequence Spread Spectrum (PHDSSS) transmission which utilizes a DSSS spreading process to create a wide bandwidth baseband signal to which a predetermined power hopping sequence is applied on several frequencies. *See*, Sumner, col. 3, lines 29-35. Therefore, because Sumner does not teach or suggest a mode selection circuit which can "selectively activate said direct sequence spread spectrum portion," that element is not taught or suggested by any of the references of record separately or in combination.

Received from < 1 619 235 0176 > at 6/26/03 6:01:05 PM [Eastern Daylight Time]

In addition, the "teaching" of Beard which the Office Action attempts to combine with Sumner cannot properly be combined with Sumner and is not taught by Beard.

The entire point of Sumner is a radio communication system which transmits information as a power hopped direct sequence spread spectrum (PHDSSS) signal. Sumner does not teach a transceiver which can operate in different transmission modes, such as DSSS and FHSS. Sumner consistently teaches the use of a single transmission technique which is PHDSSS. *See, e.g.*, Sumner, col. 2, line 14 – col. 3, line 5. Sumner states that the patent is directed to a transmission method and apparatus "that can eliminate the near-far problem associated with DSSS transmission while retaining an ability to communicate in the presence of wideband noise, such as DSSS." Sumner, col. 2, lines 8-11. Therefore, to attempt to modify the apparatus of Sumner such that it would transmit a DSSS signal would go against the express teachings of Sumner which point out the shortcomings of a DSSS signal. Similarly, attempting to modify the apparatus taught by Sumner such that it could transmit an FHSS signal would also destroy a purpose of Sumner which is to overcome the shortcomings of an FHSS signal. *See*, e.g. Sumner, col. 2, lines 4-7. Therefore, any teachings Beard might have with regard to an FHSS signal or a DSSS signal cannot properly be combined with Sumner when Sumner teaches away from using such transmission techniques.

Finally, Beard's mere statement that "FHSS typically enables high data rates to be achieved without requiring the high data speed logic that an equivalent DSSS system would require" does not teach a dual mode wireless transceiver that can transmit a DSSS signal with one data rate and an FHSS signal at a higher rate. That statement also does not provide a motivation to alter the system of Sumner against its express teachings as was noted above.

Independent Claim 8 includes, *inter alia*, a spreading code generator capable of generating a spreading code and selectively coupled to said spreading code mixer, a hopping sequence generator capable of generating a hopping sequence and selectively coupled to said frequency generator, and a spread spectrum control signal system including a switch to couple the spreading code to the spreading code mixer in a first transmission mode and to couple the hopping sequence to the frequency generator in a second transmission mode. Sumner alone or in combination with Beard does not teach or make obvious the system of Claim 8. As was noted above, Sumner does not appear in any way to selectively couple a spreading code generator to a spreading code mixer. The spreading code generator of Sumner appears to always be utilized

Received from < 1 619 235 0176 > at 6/26/03 6:01:05 PM [Eastern Daylight Time]

and to always be coupled to a mixer. Similarly, the hopping sequence generator of Sumner is not selectively coupled to the frequency generator. The hopping sequence generator of Sumner is always used. Finally, the power hopping sequence generator 126 of Sumner does not include a switch which can couple the spreading code to a spreading code mixer. It does not even appear to be in any way coupled to the encoder 102 which includes the spreading code sequence generator 106. Beard includes no teachings or suggestions which overcome these shortcomings. In addition, as was noted, Beard cannot properly be combined with Sumner.

Finally, Claim 14 includes, *inter alia*, a mode selection switch which is coupled to the direct sequence spread spectrum transmitter means and to the frequency hopping spread spectrum transmitter means for selecting either said direct sequence spread spectrum transmitter means to transmit said input signal as a direct sequence spread spectrum signal or said frequency hopping spread spectrum transmitter means to transmit said input signal as a frequency hopping spread spectrum signal. As has been discussed above, Sumner does not appear to have any mechanism for coupling either a DSSS transmitter means or an FHSS transmitter means. Sumner teaches always using a DSSS signal as the input to the FHSS portion. Even the suggestion in the Office Action that certain of the control signals of the power hopping sequence generator 126 of Sumner would lead to a system which could transmit a DSSS or an FHSS signal is incorrect. If only control signal P1 is high and all the others are low, then, perhaps, a DSSS signal would be sent. However, an FHSS signal could never be sent because the spreading code sequence generator provides a DSSS signal as the input to the radio signal generator 104. That would not result in an FHSS signal but would result in a PHDSSS signal as taught by Sumner.

In view of the foregoing, Applicant respectfully submits that each of independent Claims 1, 8 and 14 is in condition for allowance as are each of the claims which depend therefrom. The Applicant respectfully requests that the rejection under § 103 be withdrawn and that the claims be passed to allowance.

Conclusion

If the Examiner believes there is any further impediments to allowance of the application, the undersigned respectfully requests that he be contacted by telephone in order to expedite the processing of this application.

Received from < 1 619 235 0176 > at 6/26/03 6:01:05 PM [Eastern Daylight Time]

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 6/26/03

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